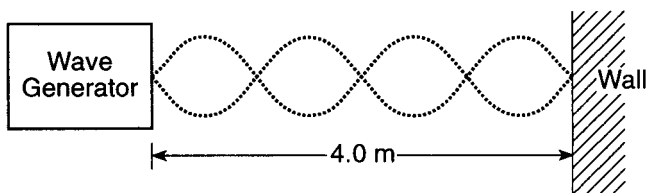


$$v = \text{freq} \times \text{wavelength}$$

1. What is the velocity of a wave having a frequency of 25 cycles per second and a wavelength of 10 meters?

- 1) 2.5 m/s
- 2) 15 m/s
- 3) 35 m/s
- 4) 250 m/s

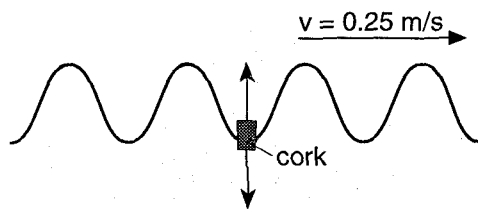
2. A wave generator located 4.0 meters from a reflecting wall produces a standing wave in a string, as shown in the diagram below.



If the speed of the wave is 10. meters per second, what is its frequency?

- 1) 0.40 Hz
- 2) 5.0 Hz
- 3) 10. Hz
- 4) 40. Hz

3. In the diagram below, a water wave having a speed of 0.25 meter per second causes a cork to move up and down 4.0 times in 8.0 seconds.



What is the wavelength of the water wave?

- 1) 1.0 m
- 2) 2.0 m
- 3) 8.0 m
- 4) 0.50 m

4. Waves are traveling with a speed of three meters per second toward *P* as shown in the diagram.



If three crests pass *P* in one second, the wavelength is

- 1) 1 m
- 2) 6 m
- 3) 3 m
- 4) 9 m

5. **Note that the following question has only three choices.**

If the amplitude of a wave traveling in a rope is doubled, the speed of the wave in the rope will

- 1) decrease
- 2) increase
- 3) remain the same

6. Sound waves with a constant frequency of 250 hertz are traveling through air at STP. What is the wavelength of the sound waves?

- 1) 0.76 m
- 2) 1.3 m
- 3) 250 m
- 4) 83,000 m

v = freq x wavelength
Answer Key

1. 4

2. 2

3. 4

4. 1

5. 3

6. 2